

Service Manual for Portable Air Conditioner

Contents

Section1 Working Principle of Portable Air Conditioner

Section2 Getting to know your Portable Air Conditioner

A. Safety Rules

B. Specification

C. Explosive Drawing

D. Main parts of the Portable Air Conditioner

E. Water Control for the Portable Air Conditioner

Section3 Installation

A. Unpack your product

B. Parts of the unit

C. Accessories

D. Install the duct in the window

E. Install the duct on the wall

Section4 How to use your Portable Air Conditioner

A. Control panel and its LCD Display

B. Operation procedure

C. Water full indication

D. Maintenance

Section5 Electric Diagram

A. Schematic Diagram for PCB

B. Electrical Wiring Diagram

Section6 Troubleshooting

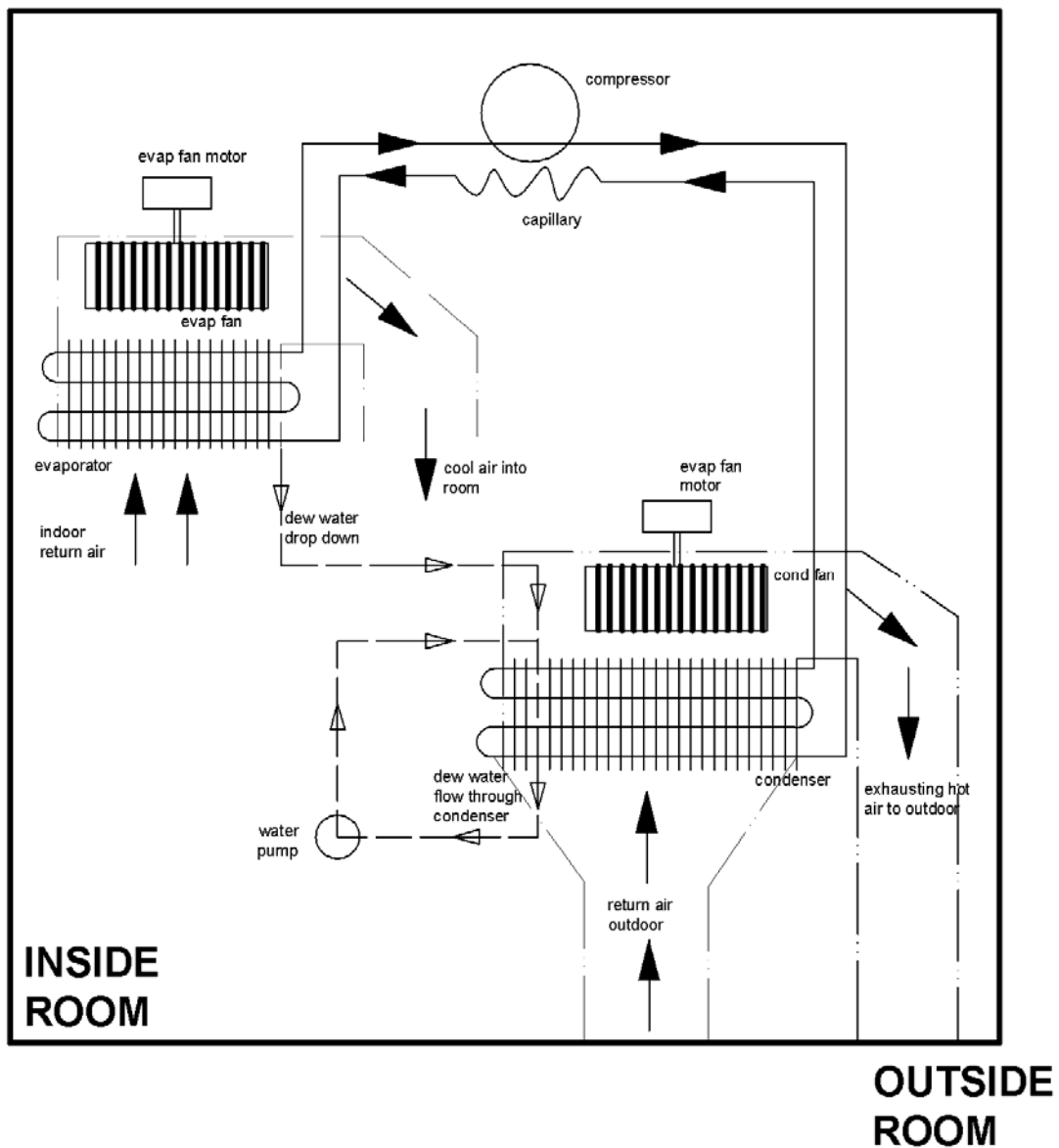
SECTION 1 Working Principle of Portable Air Conditioner

From the schematic below, there are 3 main process of portable air conditioner:
Refrigerant system, airflow system, water treatment system.

For refrigerant, it is compressed by compressor from low pressure & temperature gas to high pressure & temperature gas. Then, it goes through condenser & becomes low temperature, high pressure liquid. By the function of capillary, it changed to be low pressure & temperature liquid. After that, it flows into evaporator and evaporate to low pressure and temperature gas. Then back to the compressor.

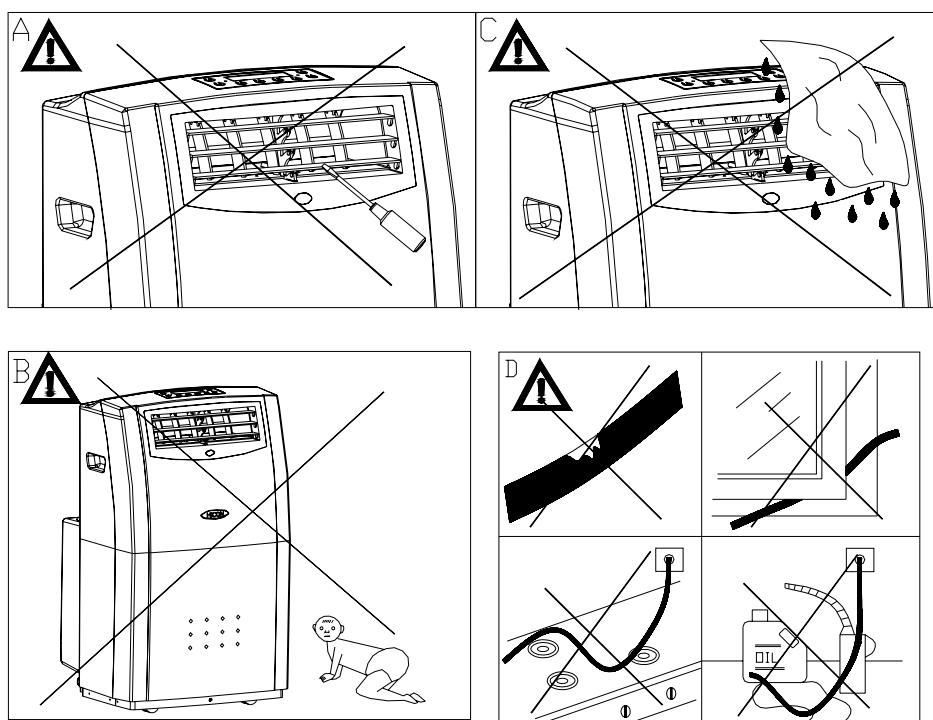
On evaporator side, hot air is sucked across the evaporator, through heat exchange with refrigerant, then cool air is blowing out from blower housing opening. On condenser side, outdoor air is sucked across the condenser. Bringing with the heat of condenser, it is exhausted back to outdoor through the air duct.

Meanwhile, the dew from evaporator drops down & flows through the condenser. And then, the water is to be confluent in a water tank & pumped up back to the top of condenser by a water pump & flows through the condenser again. In this process, some condensed heat transfer to the water.



SECTION 2 Getting to know your Portable Air Conditioner

A. SAFTY RULES



The connection to the main electricity supply must comply with current safety regulations in your country for installation of home appliance.

You must connect this portable air conditioner to a socket that:

- corresponds to the plug fitted on the unit
- is of suitable dimensions for the maximum current absorbed
- is connected to an efficient earth system.
- be sure the plug is fully inserted into the receptacle;

The power cable (Fig. D) must not:

- Come into contact with liquid of any kind; danger of electric shock and/or fire;
- be squeezed and/or come into contact with sharp surface;
- be used to drag the unit;
- be used if damaged;
- be handled with damp or wet hands;
- be left in a tangled coil when the unit is working;
- come into contact with hot surface;
- use an extension cord; If you must use an extension cord, use No.12 AWG minimum size;
- be left at traffic area, that will be more easy to damage the cord

If the power supply cord is damaged, it must be replaced exclusively by the service agent or a similarly qualified person.

It is strictly forbidden to:

- Place objects inside the air outlet or inlet grids (Fig. A)
- Use this unit inside closets, cabinets and/or cramped spaces between furniture;
- Repair, disassemble and/or modify the unit by yourself;
- Block the air outlet and/or inlet grids;
- install the unit in any manner other than that described in the “Installation Manual”;
- Use this unit in proximity to inflammable and/or explosive substance;
- Operate this unit without filters;
- Turn this unit on and off by using the plug; always use the ON/OFF switch.

Do not allow children to play near the unit.(Fig. B)

Before cleaning this unit, make sure that it is unplugged; do not wash the unit with water, gasoline or solvents of any kind(Fig. C)

To avoid the risk of shock, the product should never be used in bathrooms, shower rooms, or in any other steamy or wet areas.

This unit is unsuitable for specialized purpose such as preserving food, works of art, scientific data etc.

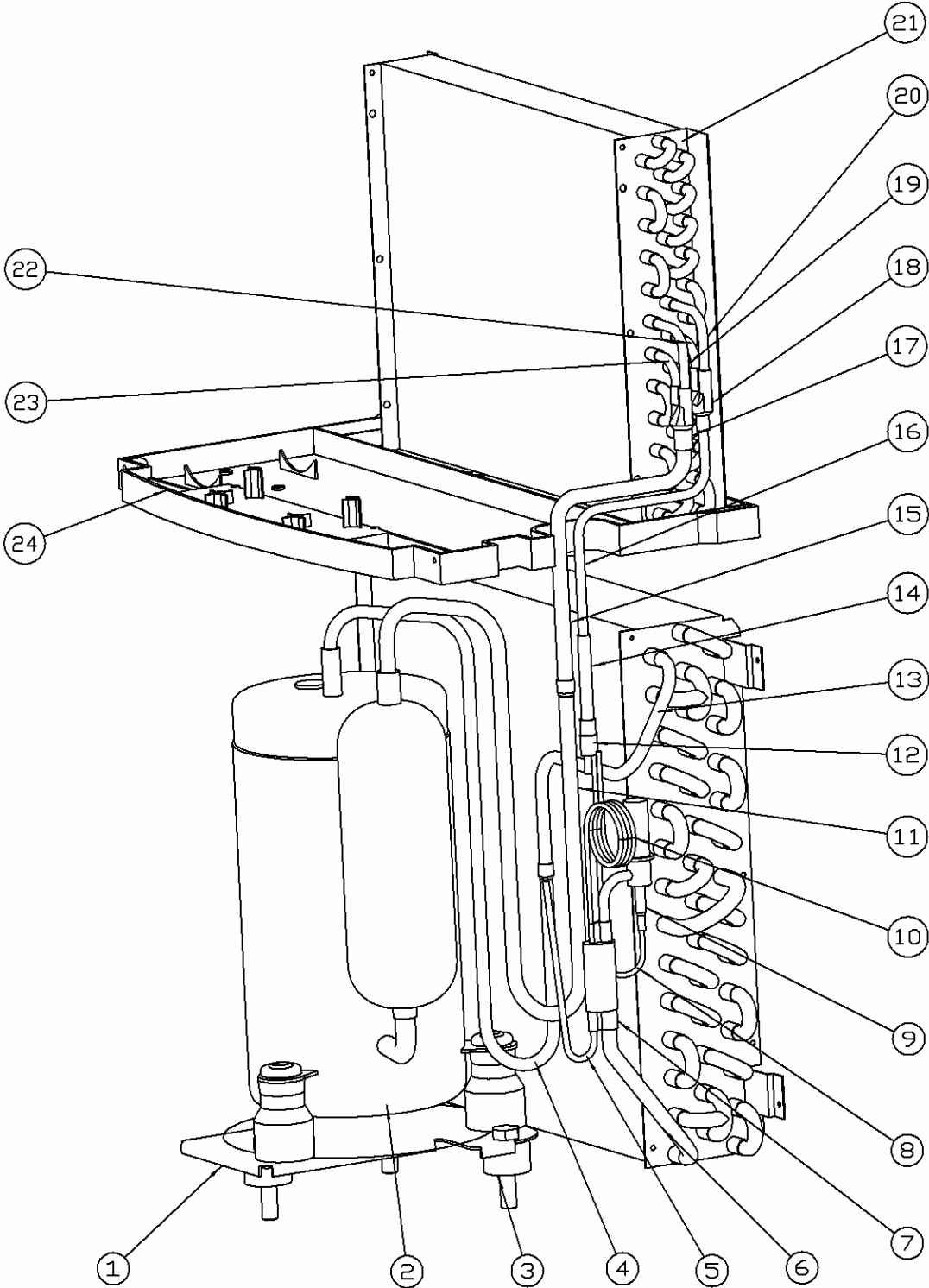
Do not use the unit at slope because the unit is supported by four castors.

In the event of fire, use carbon dioxide(CO₂) extinguishers. Do not use water or powder extinguishers.

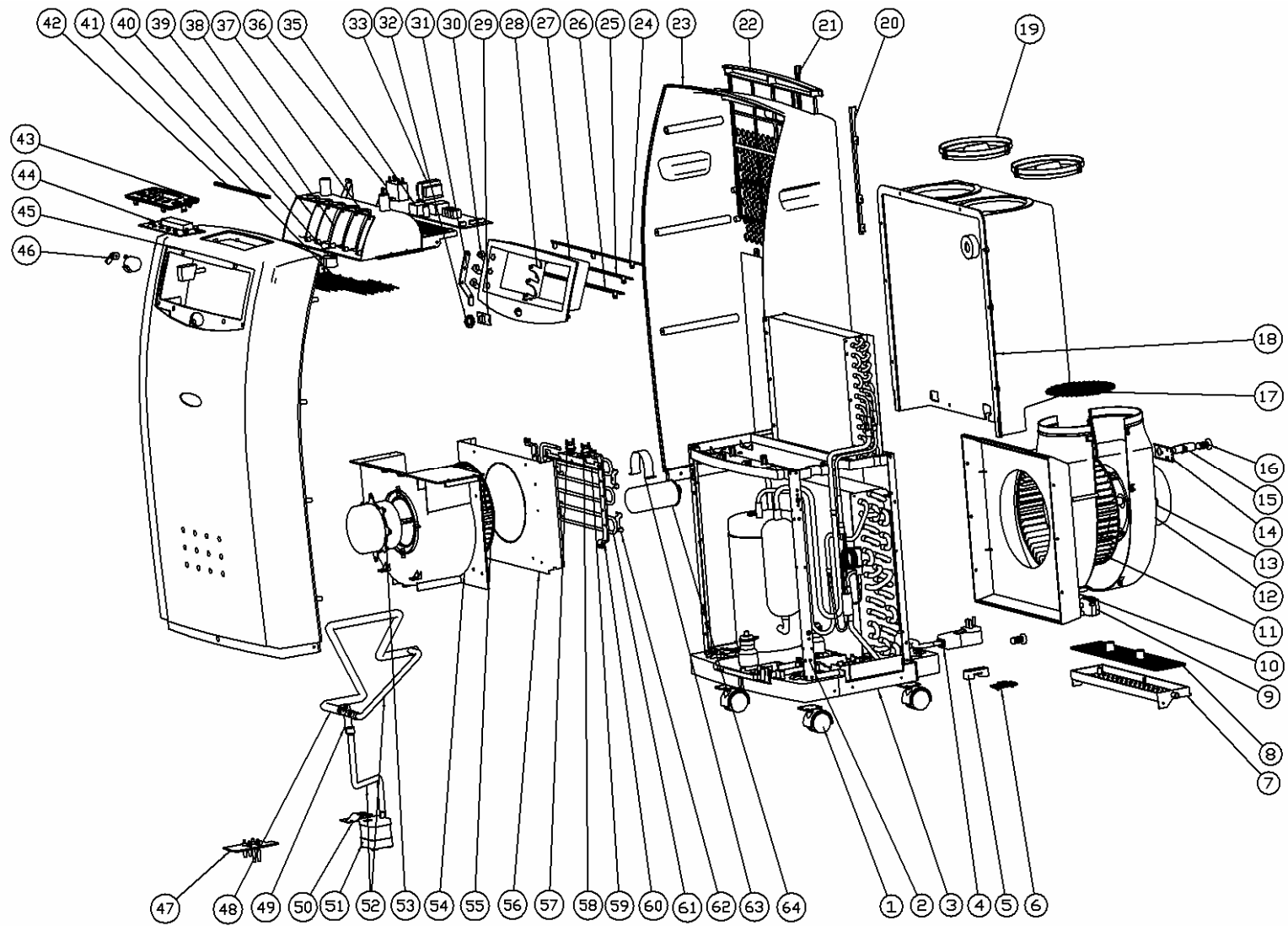
B. Specification

Model	KY-35
Electrical Power Supply	115Vac/60Hz
Cooling Capacity(W) [Btu]	3,500 [12000]
Heating Capacity(W) [Btu]	1250W[4265]
Rated Power Consumption During Cooling	See nameplate
Rated Power Consumption During Heating	1250
Dehumidifying capacity(L/H)	
Refrigeration & Charged Quantity	See nameplate
Cooling Side Fan Speed	3 Speed
Airflow Circulation Volume (Cooling side) H/M/L	350/300/250m ³ /h
Noise Level	52dB(A)
Dimension	483x833x493
Net. Weight	40Kg
Max. Length of air inlet and outlet hose	1800mm
Programming Timer	1-24Hr
Remote Control	Optional
Recommended Room Size	12~18mm ²

C. Explosive Drawing



24	2.04.02.02.22000	MIDDLE PAN, PLASTIC	1	
23	2.04.02.06.08001	INLET TUBE B, EVAP	1	
22	2.04.02.06.09001	OUTLET TUBE B, EVAP	1	
21	2.04.02.07.02000	EVAPORATOR	1	
20	2.04.02.06.09000	OUTLET TUBE A, EVAP	1	
19	2.04.02.06.08000	INLET TUBE A, EVAP	1	
18	2.04.02.06.06002	3-WAY BIFUCATE, 6.3+6.3+6.3	1	
17	2.04.02.06.06003	3-WAY BIFUCATE, 6.3+6.3+9.8	1	
16	2.04.02.06.01000	INLET TUBE, EVAP	1	
15	2.04.02.06.15000	OUTLET TUBE, EVAP	1	
14	2.04.02.06.07000	CONNECTING TUBE, EVAP TO COND	1	
13	2.04.02.06.16000	INLET TUBE, COND	1	
12	2.04.02.06.06001	3-WAY BIFUCATE, 3.2+3.2+8.2	1	
11	2.04.02.06.13001	SUCTION TUBE	1	
10	2.04.02.06.05001	CAPILLARY, SYSTEM COOLING	1	
9	2.04.02.06.03000	UNLOADING VALVE	1	
8	2.04.02.06.04000	UNLOADING TUBE	1	
7	2.04.02.06.11000	STRAINER, 4-WAY BIFUCATE	1	
6	2.04.02.06.01000	OUTLET TUBE, COND	1	
5	9.03.2.0405.155	CHARGE TUBE	1	
4	2.04.02.06.14001	DISCHARGE TUBE	1	
3	2.04.02.08.02000	GROMMET, COMPRESSOR BRACKET	1	
2	C.SG653PB1-A	COMPRESSOR	1	
1	2.04.02.05.01080	COMPRESSOR BRACKET ASM	1	
ITEM	PART NUMBER	DESCRIPTION	QTY	REMARK



64	9.06.05.1.601292	COMPRESSOR CAPACITOR	1	
63	2.04.01.05.08000	STRAP, CAPACITOR	1	
62	2.04.02.05.08000	SMALL BRACKET, E-HEAT	4	
61	2.04.02.03.06001	E-HEATER	1	
60	2.04.02.05.06000	SIDE BRACKET, E-HEATER	2	
59	2.04.02.05.09000	THERMOSTAT BRACKET	1	
58	9.06.02.1.140100	THERMOSTAT, MANUAL	1	
57	9.06.02.1.065101	THERMOSTAT, AUTO	1	
56	2.04.02.05.07000	E-HEATER PANEL	1	
55	2.04.02.02.21000	EVAP FAN	1	
54	2.04.02.02.16000	EVAP FAN HOUSING	1	
53	2.04.02.03.04001	EVAP FAN MOTOR	1	
52	2.04.02.08.10000	SILICA PIPE, (8+12)x250	2	
51	2.10.01.03.02003	WATER PUMP	1	
50	2.04.02.05.13000	WATER PUMP BRACKET	1	
49	2.02.30.02.07000	T-BRANCH PIPE	1	
48	2.04.02.08.10001	SILICA PIPE, 12x750	1	
47	2.04.02.09.22000	WATER STAGE BRACKET ASM	1	
46	2.04.02.02.44000	SPINDLE, STEP MOTOR, GREY	1	
45	2.04.02.02.34000	FRONT PANEL	1	
44	2.04.02.03.07001	CONTROL BOARD	1	
43	2.04.02.02.36000	CONTROL PANEL, PLASTIC, GREY	1	
42	2.04.02.05.04080	METAL MESH, EVAP OPENING	1	
41	2.04.02.02.20000	TIE BAR, VERTICAL LOUVER, GREY	1	
40	9.06.05.3.000003	STEP MOTOR	2	
39	2.04.02.02.18000	VERTICAL LOUVER, GREY	4	
38	2.04.02.02.19000	DRIVING VERTICAL LOUVER, GREY	1	
37	2.04.02.02.17000	EVAP AIR OUTLET, GREY	1	
36	9.06.05.1.005030	EVAP MOTOR CAPACITOR, 5uF	1	
35	2.04.02.03.05000	PCB BOARD	1	
33	9.06.05.0.000301	TRANSFORMER	1	
32	2.04.01.02.19000	RECEIVING WINDOW	1	
31	2.04.02.02.42000	CROOKED TIE BAR, GREY	1	
30	2.04.02.02.43000	SPINDLE, GREY	3	
29	2.04.01.03.08000	RECEIVING BOARD	1	
28	2.04.02.02.41000	MID LOUVER, GREY	1	
27	2.04.02.02.37000	AIR OUTLET, GREY	1	
26	2.04.02.02.40000	BTM LOUVER, HORIZONTAL, GREY	1	
25	2.04.02.02.39000	MID LOUVER, HORIZONTAL, GREY	1	
24	2.04.02.02.38000	TOP LOUVER, HORIZONTAL, GREY	1	
23	2.04.02.02.30000	BRACKET PANEL 1	1	
22	2.04.02.02.31000	FILTER	1	
21	2.04.02.05.12000	FILTER BRACKET, RIGHT	1	
20	2.04.02.05.11000	FILTER BRACKET, LEFT	1	
19	2.04.02.02.45000	COVER, AIR EXHAUSTING	2	
18	2.04.02.02.32000	BACK PANEL 2	1	
17	2.04.02.05.02000	METAL MESH, COND OPENING	1	
16	2.04.01.08.08000	DRAIN TUBE PLUG	2	
15	2.04.02.02.14000	DRAIN TUBE, PLASTIC	1	
14	2.04.02.05.03000	BRACKET, DRAIN TUBE	1	
13	2.04.02.03.03001	COND FAN MOTOR	1	
12	2.04.02.02.11000	BTM HOUSING, COND FAN	1	
11	2.04.02.02.13000	CONDENSER FAN	1	
10	2.04.02.02.1200	TOP HOUSING, COND FAN	1	
9	9.06.04.10.00100	WIRE TERMINAL, 3HOLES	0.25	

8	2.04.02.02.10000	COVER, DRIP TRAY	6	
7	2.04.02.02.09000	DRIP TRAY	1	
6	2.04.02.02.24000	STRAIN,POWER CORD,BTM	1	
5	2.04.02.02.25000	STRAIN,POWER CORD, TOP	1	
4	9.06.03.90.22085	POWER CORD	1	
3	2.04.02.02.08000	BTM PAN,PLASTIC	1	
2	2.04.02.05.10000	SUPPORT TIE,MID PAN	4	
1	9.05.02.017	FOOT WHEEL	4	
ITEM	PART NUMBER	DESCRIPTION	QTY	REMARK

D. Main parts of the Portable Air Conditioner

I. Evaporator

As a low pressure component, evaporator is installed between capillary tube and compressor inlet. High pressure refrigerant liquid from condenser flows to evaporator after throttle and pressure decrease by filter and capillary tube. During turning into low pressure saturation gas it suck in heat. Heat exchange happens between evaporator tube wall & wing plate and outer air to reach the purpose of lowering air temperature. After heat suck in evaporator, low pressure refrigerant gas flows through return pipe passage to compressor for re-compression.

II. Condenser

As a high pressure component, evaporator is installed compressor outlet & filter. The condenser transfers heat power of high pressure. High temperature refrigerant gas comes from compressor to air around it through its outer wall and wing plate. Thus the gas is condensed to liquid and during condensing its pressure remains unchanged and temperature decreases. Following Fig. shows structure of the condenser.

Evaporator and condenser are called heat exchange units. They normally composed of copper tube with aluminium heat elimination wing plate to increase heat exchange area and air movement at air side, thus increase heat transfer coefficient and heat exchange capacity.

III. Compressor

Compressor is the heart of A/C refrigeration system. Flow or circulation of refrigerant for this system is depending on running of compressor. Once compressor stops running, refrigeration operation will stop. Compressing procedure of refrigerant: During running of compressor, it sucks in evaporated super saturation steam from evaporator and compresses it to increase pressure and temperature. Then deliver it to condenser for condensing to high pressure liquid.

There are reciprocated piston type, rotary type & volute type compressors. Compared with reciprocated piston type, rotary type compressor is compact, light, small, high efficiency and low noise. Volute type compressor is further improved from rotary type. Rotary type compressor is adopted for our portable air conditioner.

IV. Evaporator blower wheel

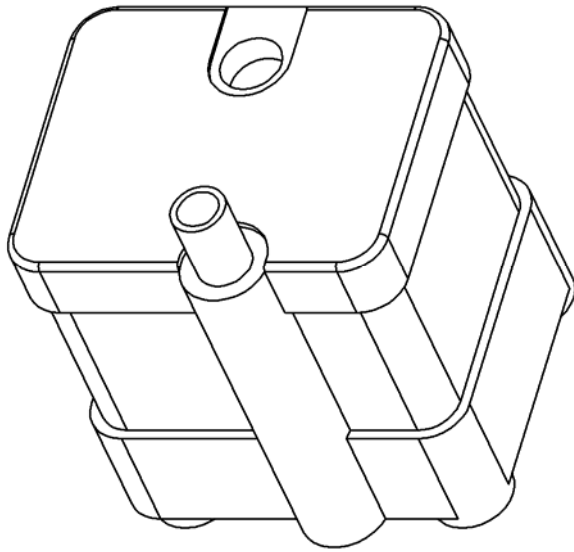
Indoor air flows across evaporator for heat exchange after dust removal by air filter. It turns into cool air & accelerated by blower wheel. Then it flows along blower housing & enter room.

This procedure continuous and lowers air temperature continually.

V. Condenser blower wheel

Outdoor air flows across condenser for heat exchange. It takes away the heat of condenser & being exhausted to outside through the air duct after compressed & accelerated by blower wheel in blower housing.

VI. Water pump



The condensed water from evaporator flows through the condenser. Then, they conluent in the water tank on bottom pan & pumped up back to the top of condenser. This procedure is to be circulating to assist condenser cooling down if water is enough.

VII. Transformer

Transformer used in this unit belongs to class 2 transformer or isolation transformer, and is thermal fuse protected.

Model: BKF-001, or BKF-003:

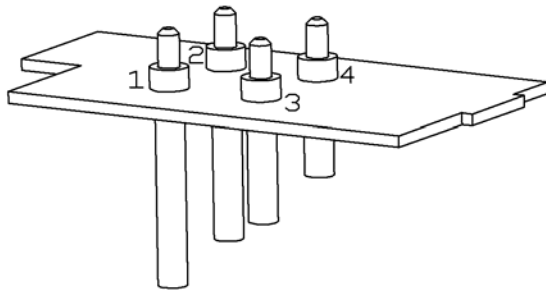
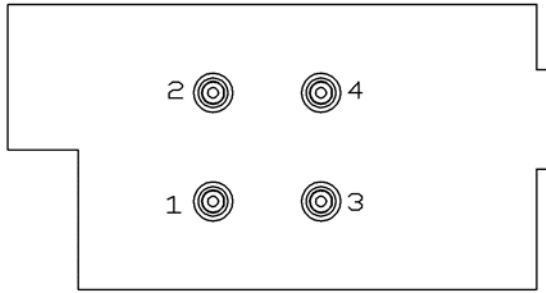
Primary: 220-240V, 50/60Hz

Secondary: $14 \pm 0.5V$, 350mA

E. Water Control for the Portable Air Conditioner

Water control is the most important section in the control system of portable air conditioner. It controls the condensed water stage in water tank of bottom pan, prevent the water to overflow the bottom pan. Also it guides the water pump & airflow to access best heat exchange of condenser.

- 1) If the 3rd water level pole connect with the 1st water level pole, water pump begin to work.
- 2) If the water level goes below than the 2nd water level pole & the disconnecting of 1st pole with 2nd pole keep 5 minutes, water pump stop working.
- 3) If the water level still rise up as the water pump begins working, then condenser fan motor change to be at low speed. If the water level is lower than 3rd pole after 5 minutes, switch condenser fan motor back to high speed.
- 4) If the 4th water level pole connected, the water full indicator lights up. Then compressor stops working, water pump keeps working, condenser fan & evaporator fan still running at high speed. Till the 4th water level pole disconnected, compressor resumes.



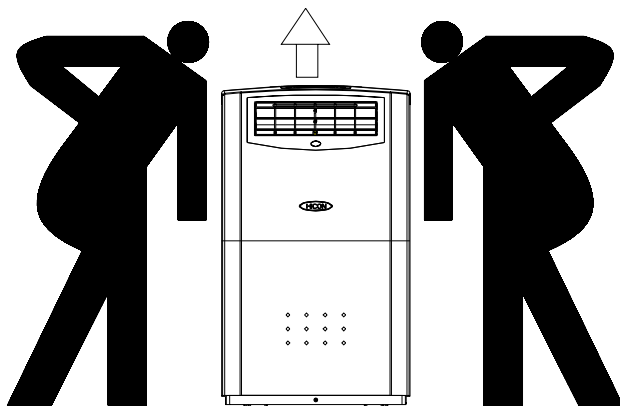
Note: No.1st water level pole is the base and common pole, when checking, please measure it with other poles.

SECTION3. Installation

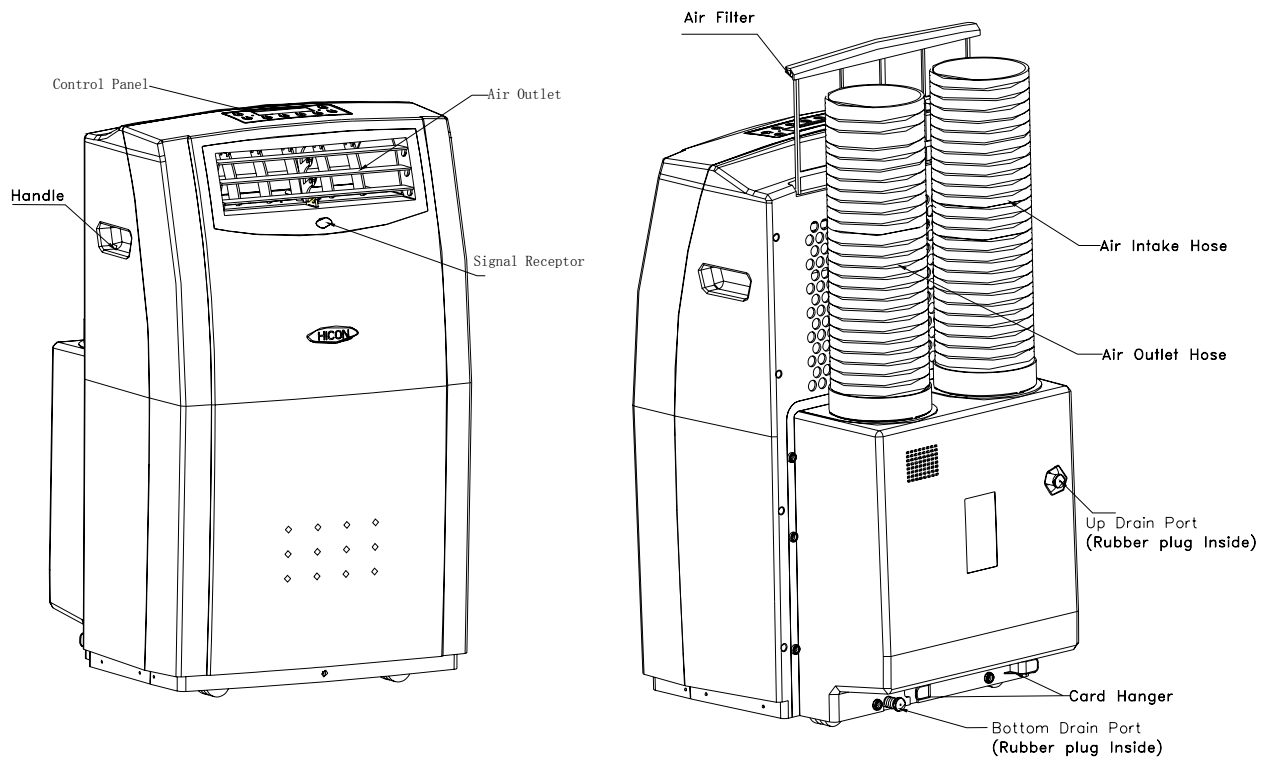
A. Unpack Your Product

When you get this unit, please transport the product in an upright position only, and place the product on an even surface. Then remove the cardboard box without turning it upside down, or laying it on its side.

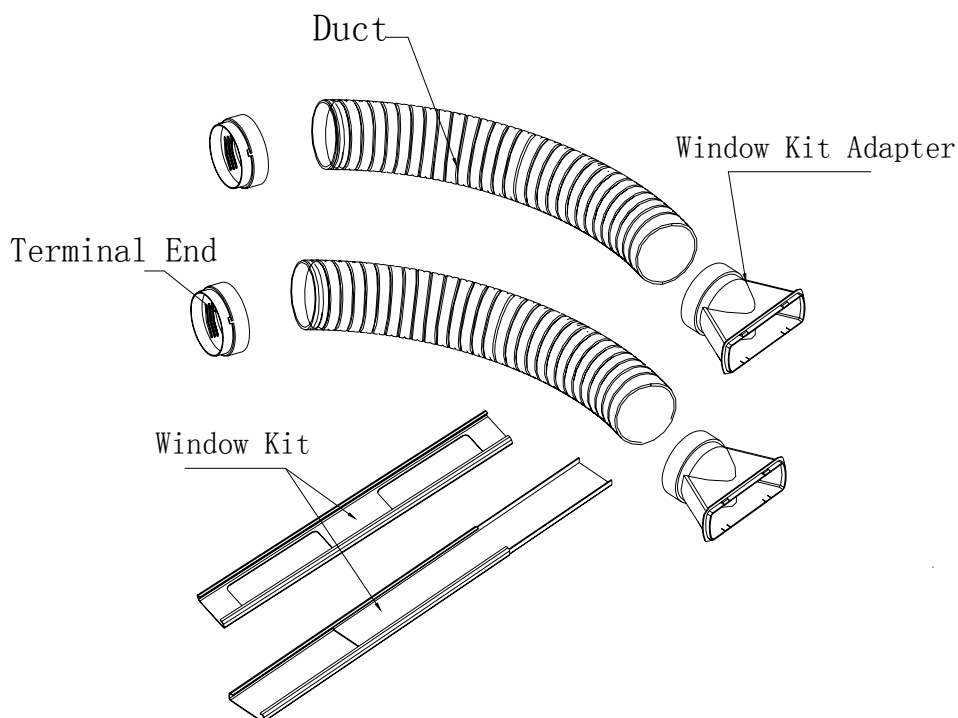
- Remove the adhesive tape on the top of the cardboard box..
- Open the cardboard box.
- Remove the Styrofoam packing and angle-protection board.
- Lift and held the unit from the Styrofoam packing base by two people without being tilted.
- Remove the plastic bag.
- Wipe it clean if necessary.
- Then install hot air exhaust duct for condenser side according to the following installation instruction.



B. Parts of the Unit



C. Accessories



When you use the unit as an air conditioner or a dehumidifier, the hot air must be exhausted out from the room to complete the air exchange of the condenser. When the unit is operating on fan, no outdoor air exchange takes place. You do not need to hookup the window kits and hot air exhaust ducts when you use the unit as a fan.

D. Install the duct in the window

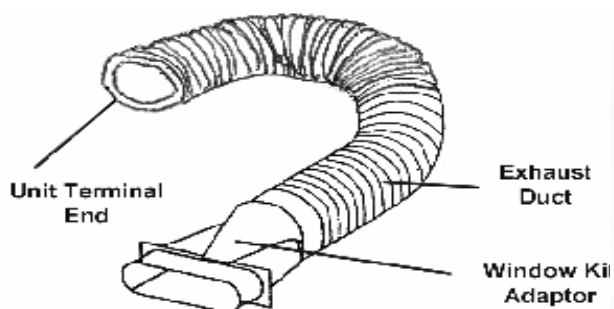


Fig. Air Inlet and Exhaust Ducts

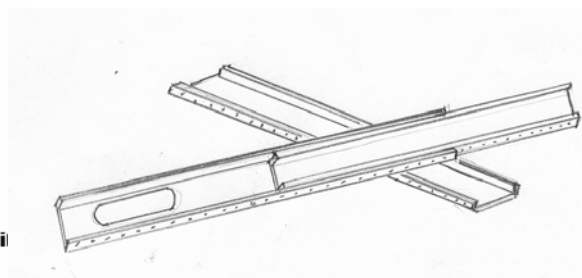


Fig. Window kits

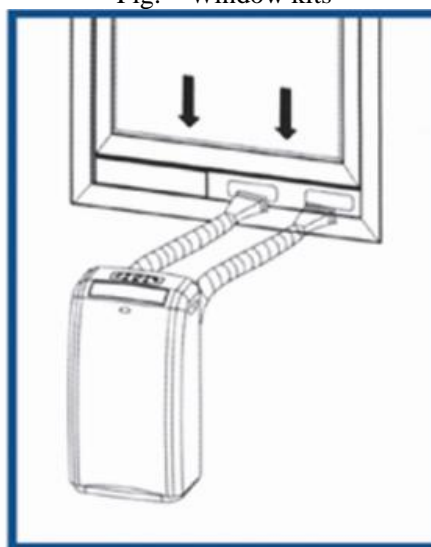
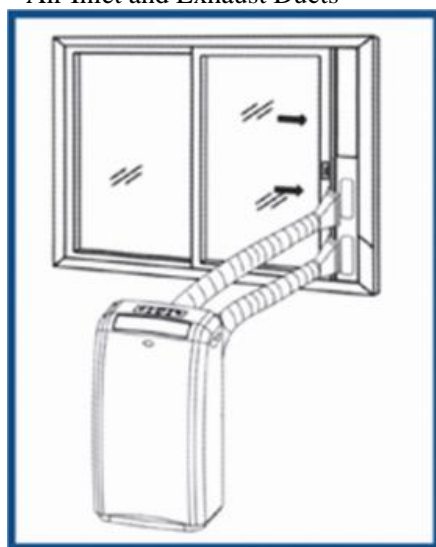


Fig. Install the ducts to the window

- a) Pull out of both ends of both of ducts for approximately 6".
- b) Screw clockwise the exhaust ducts with one end to **the terminal end** of the back of the unit and other end to **the window kit adapter**.
- c) Remove exhaust **outlet wall covers** from the back of the unit by screwing the covers counter-clockwise before lifting them up.
- d) Mount **the terminal ends** of both of ducts to the back of the unit.
- e) Open window or sliding door for approximately 5 inches (130 mm)
- f) Adjust the length of the window kit to the same length of the window or the sliding door. Use all three panels if necessary. Cut the window piece as needed to fit the length of your window or sliding door. Make sure that both holes on the main piece are not covered by other pieces.
- g) Place the window kit to the window or sliding door. Close the window or door as far as it goes.
- h) Adjust the lengths of both of exhaust hoses and affix the window kit adapters onto the holes on the window kit.
- i) NOTE: When using the window kit on a window or sliding door it will cause the window or sliding door not to be properly closed and locked. Additional security measurements should be taken

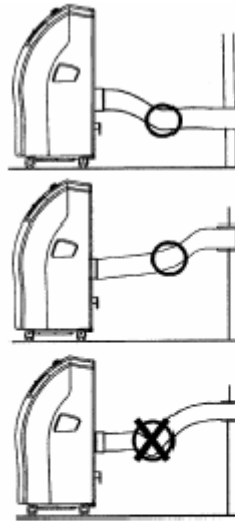
E. Install the Duct on the Wall

- 1) No need to use window kit adapter. Mount the one end of the exhaust ducts onto holes of 5.6" on the wall, another end to the back of the unit same as above.
- 2) Using exhaust outlet wall covers to cover the holes in the wall when the unit is not in use.

Note:

Mounting the exhaust pipe

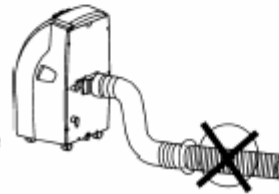
- The supplied exhaust hose can be extended from 1 foot to 5 feet for mounting. It is recommended that you use the shortest possible length of hose.
- Take care to prevent any kink or bend in the middle of the exhaust hose, as this will trap hot exhaust air, which will radiate back into the room.



WARNING!

The length of the exhaust pipe is specially designed according to the specification of this product.

Do not replace or extend it with your own hose as this could cause the unit to malfunction.



After installing the ducts, then pull the power supply cable from the down back side of the unit, and prepare to run the unit.

SECTION 4. How to use your Portable Air Conditioner

A. Control Panel and its LCD Display

Main Power Indicator

Timer Indicator

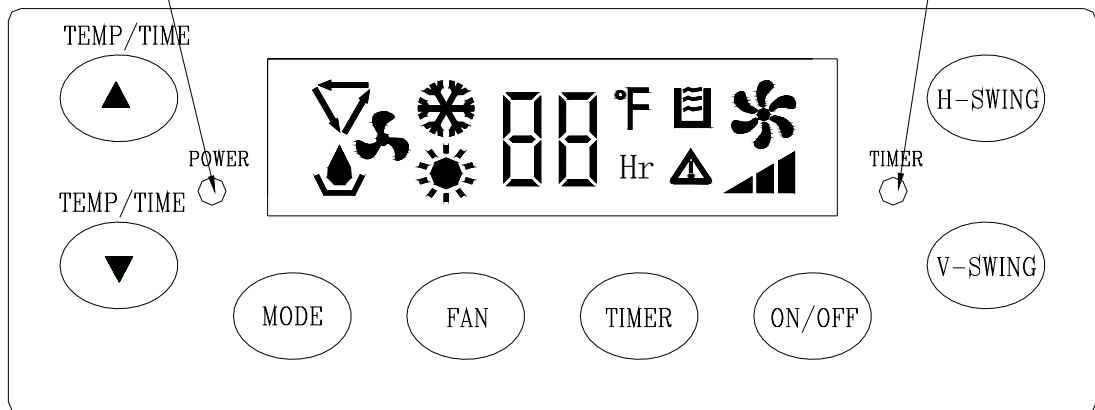


Fig. Control Panel

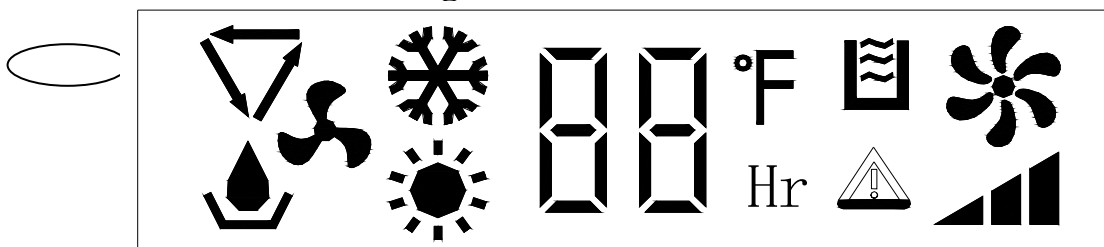


Fig. Displaying Panel

- 1) On/Off Button

Use to Start or Stop the Unit



- 2) Mode Operation Mode Selection Button

Use to Select the operation mode: **Auto** Mode, **Fan-Only** Mode, **Soft-Dry** Mode, **Cooling** Mode, **Heating** Mode

- 3) Fan Fan Speed Selection Button

Use to select the fan speed: High, Medium, Low, Auto

- 4) Temperature/Time Changing Button

Use to set the desired temperature by pressing either  or  button at cooling, heating and soft-dry mode. The temperature unit is Fahrenheit only.

During the timer setting, the buttons are also used to change the time .

- 5) Timer Timer Setting and Canceling Button

Use to set or cancel ON-TIMER or OFF-TIMER timer.

When the unit is on, press this Timer button, the temperature unit indicator “°F” will be off at once, and time unit indicator “Hr” will lit on at same time, and the temperature digit now change to the time digit. After 10 seconds of the TIMER setting, the Digit will also recover to display the set

temperature. If the unit has been set with the OFF-TIMER, then first press this Timer button to check the timer time, second press in 10 seconds to cancel the OFF-TIMER setting.

When the unit is off, if the unit hasn't been set with ON-TIMER, then press this **Timer** button, the unit enter Timer program. If the unit has been set with ON-TIMER, then press this **Timer** button to cancel the ON-TIMER set.

6) **H-SWING** Horizontal swing strip control button


Use to control the horizontal swing strip working mode.


7) **V-SWING** Vertical swing strip control button

Use to control the vertical swing strip working mode.

Signal on the displaying panel

 — Auto mode


 — Soft-dry mode

 — Fan-only mode


 — Cooling mode

 — Heating mode

 — Fahrenheit temp

 — Hours

 — Water-Full Indicator

 — Error Indicator

 — Indoor Fan mode

Remote Controller (Optional)

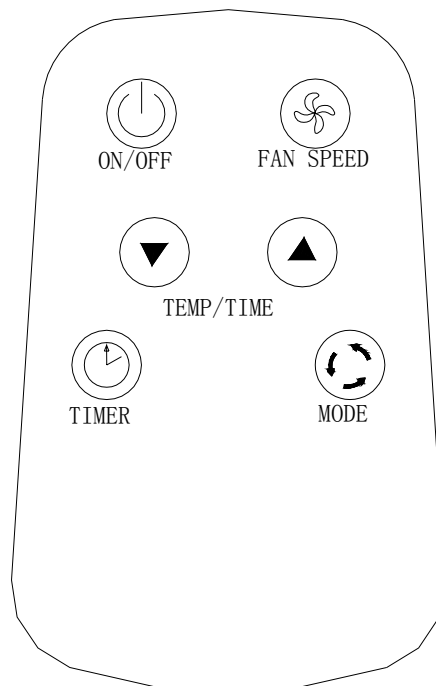


Fig. Remote Controller

Six buttons on the remote controller are same as the buttons on the control panel of the main unit individually. And will not explain it again.

The remote controller uses the lithium battery (Model: CR2025). Install the batteries before using the remote controller.

C. Operation Procedure

You can operate it with the operation panel or with remote controller.

Cooling operation

- 1) Plug the Power Cord to the power outlet.
- 2) Turn on the unit by pressing the ON/OFF button.
- 3) Press Mode Button until signal “❄️” appears on the display
- 4) Set the room temperature to your desired room temperature with Temperature Changing Button.

The temperature ranges from 64°F-90 °F (18 °C-32 °C),
Recommend: 82-86 °F

- 5) Select the fan speed by pressing the Fan Button.

Dehumidifying Operation

- 1) Plug the Power Cord to the power outlet.
- 2) Turn on the unit by pressing the ON/OFF Button on the control panel.
- 3) Press the Mode Button until the signal “💧” appears on the display.

Keep the windows and the doors closed to aid the effectiveness of the unit in removing the moisture from the room.

NOTE: The unit will not perform dehumidifying when the room temperature is lower than 64 °F.

Fan-only Operation

- 1) Plug the Power Cord to the power outlet.
- 2) Turn on the unit by pressing the ON/OFF Button on the control panel.
- 3) Press the Mode Button until signal “🌀” appears on the display.
- 4) Select the fan speed by pressing the Fan Speed Button.

When at Fan-only mode, both of ducts are no need, and the compressor and condenser side fan motor will not work.

Heating Operation


- 1) Plug the Power Cord to the power outlet.
- 2) Turn on the unit by pressing the ON/OFF Button on the control panel.
- 3) Press the Mode Button until signal “☀️” appears on the display.
- 4) Set the room temperature to your desired room temperature with Temperature Changing Button.

The temperature ranges from 61°F-82 °F (16 °C-28 °C),
Recommend:70-75 °F

- 5) Select the fan speed by pressing the Fan Speed Button. It is recommended to use a low fan setting.

Because the heating function is realized through the electrical heater, the compressor and the condenser side motor will also not work. And both of the ducts are no need.

Auto Operation



- 1) Plug the Power Cord to the power outlet.
- 2) Turn on the unit by pressing the ON/OFF Button on the control panel.
- 3) Press the Mode Button until the signal “” appears on the display.
- 4) Select the fan speed by using FAN button.

During the AUTO mode, the unit will be at heating mode when the room temperature is below 70 °F. And It will operates at Fan-only mode when the room temperature is between 70 to 81 °F. It operates at cooling mode when the room temperature is above 81 degree.

ON-TIMER program setting

How to set

When the unit is off, you can set to let the unit start after some hours.

- 1) Press the TIMER button on the control panel or remote controller. Now the digit on the display change to the Timer delay time, and the Timer Indicator on the control panel will lit on.
- 2) Press “” or “” button to change the Timer delay time to your desired number.



How to cancel

When the unit is set with ON-TIMER while off-state, press TIMER button to cancel it. And the Timer Indicator on the control panel will turn off.

OFF-TIMER program setting

How to set

When the unit is on, after set with the OFF-TIMER, the unit will stop after your set delay time.


- 1) Press the TIMER button on the control panel or remote controller. Now the digit on the display change to the Timer delay time, and the Timer Indicator on the control panel will lit on.
- 2) Press “” or “” button to change the Timer delay time to your desired number.

How to cancel



When the unit is set with OFF-TIMER while the unit is on, first press TIMER button, then the digit will change to the Time number and the unit “Hr” will lit on, then second press TIMER button, now the OFF-TIMER setting is canceled. And the Timer Indicator on the control panel will turn off, and the digit and its unit recover to temperature display.

Swing-Strip Working Mode Adjustment

Horizontal Swing Strip

Press  button continuously and not release, the horizontal swing strip will swing up and down automatically. And if you release, the swing strip will stop swinging at once.

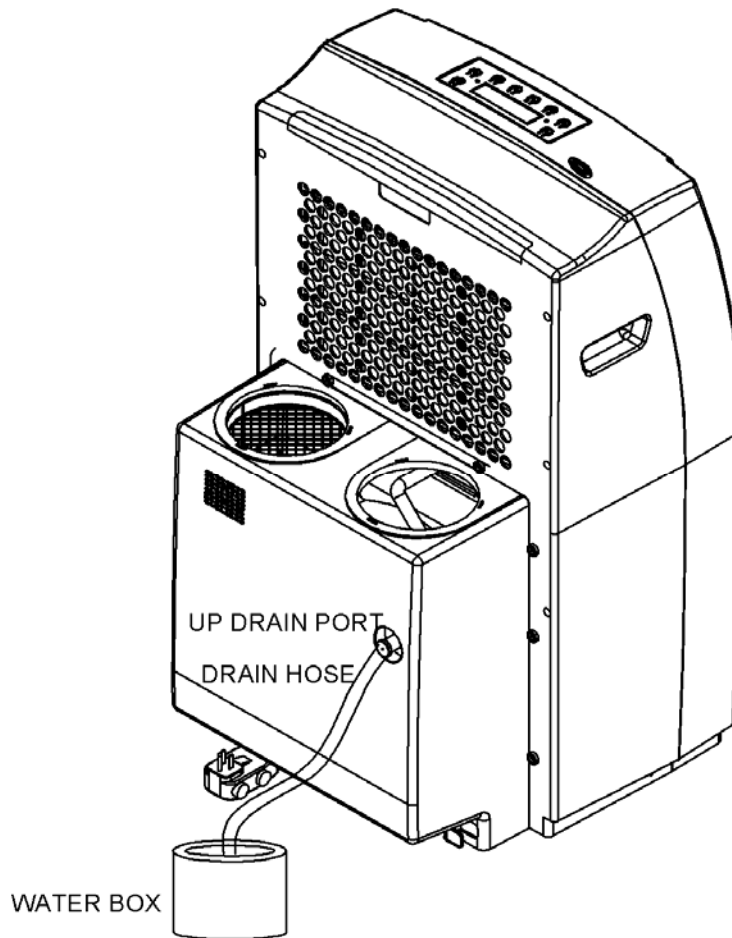
Vertical Swing Strip

Press  button once, the vertical swing strip will swing left and right automatically always. And if you press this  button again, it will stop swinging at once.

D. Water Full Indication

Under normal ambient, water inside the unit will evaporate without need to manually drain it, and this indicator will not be on. But it may be at extremely wet day, when during at cooling mode or soft-dry mode, when the water full indicator turn on, means that the water is full. The compressor will stop working, but both of two fan motor will continue working. If you not willing to empty the water by yourself, you need to wait some moment to drain out the water. Till this indicator shut, the compressor will start to work again.

Drain out the water by yourself:



First stop the unit, connect a additional drain hose to up drain port at the back of the unit according to the above figure. Then turn on the unit by press ON/OFF button. Then the water pump inside the unit will work, the water will be drained out of the unit. Until the water does not flow out of the unit, then discharge the additional drain hose and reinstall the drain cap. And with the water flowing out, the water full indicator will turn off and the compressor will work again.

The A/C unit's cooling efficiency will be affected if the drain pipe or the garden hose is always attached to the unit. The drain pipe or garden hose must be used only when the above "WATER FULL" indicator on the operation panel is on.

E. Maintenance



Make sure power supply is switched off and the plug is pulled out of the power outlet before performing any maintenance activities.

Do not immerse the unit in water or other liquids.

Do not pour liquids into the unit.

Take special precaution to avoid the sharp cutting edges of some parts.

Clean or replace filter

If the air filter is blocked with a lot of dust, the airflow volume will reduce and the cooling effect will lower. It is recommended to clean the filter once every two weeks or as needed.

- a) Pull up the filter from the filter compartment in the back of the unit.
 - b) Wash the air filter by immersing it gently into warm (about 104 F) water with a neutral detergent. Rinse the filter and dry it thoroughly in a shaded place.
 - c) Replace the filter back to the filter compartment after it is thoroughly dried.
- b) If the filter is torn or unusable, order a new filter by calling the contact section of this manual.

External plastic parts

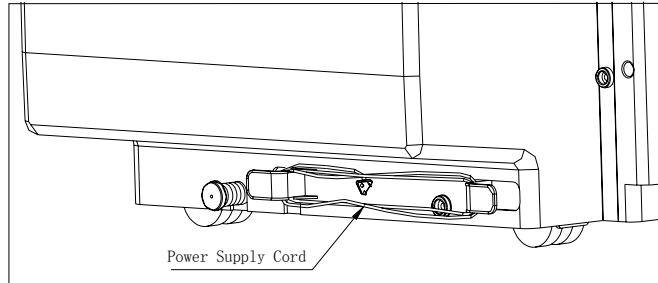
- a) Keep the unit from being exposed directly to the sun.
- b) Clean the surface with a damp, dry cloth.

At the End of Cooling Season

- a) On a warm day, turn on the unit at fan mode for a couple hours so that the inside can dry out completely.
- b) Shut off the unit and pull out the power supply plug.
- c) Empty the residual condensate water by unplugging the water drainage cap at the back towards the bottom of the unit
- c) Clean the filters and dry it completely before fitting back in place.
- d) Cover the appliance to protect it from dust. It is recommended that the unit can put back into its original cartoon and package.
- e) The unit should be stored in a cool dry place. And do not stack heavy objects on the top.

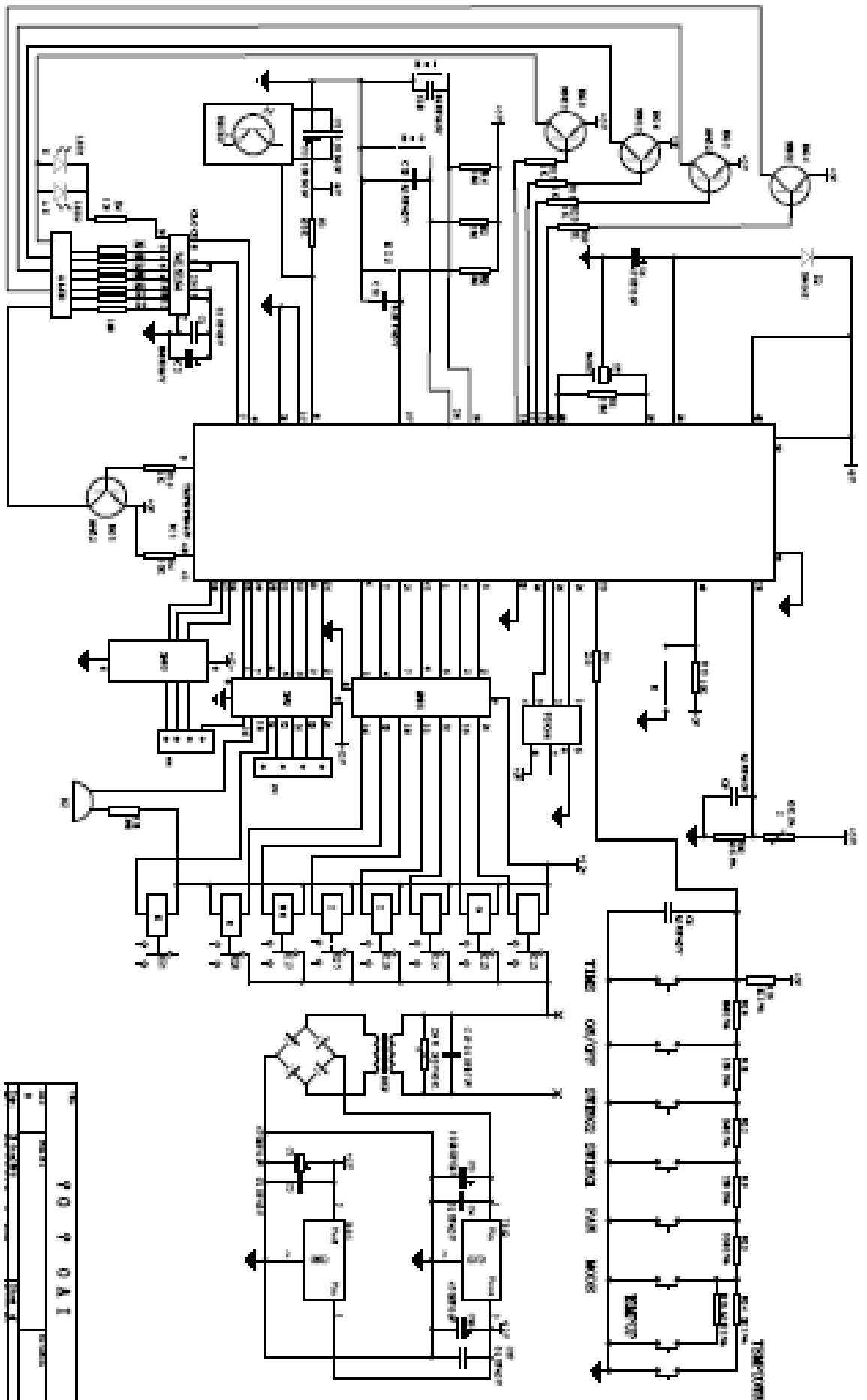
Storing the Power Cord

To avoid damage the power cord, when the unit is not in use, please always store power cord at the back of the unit just as original.



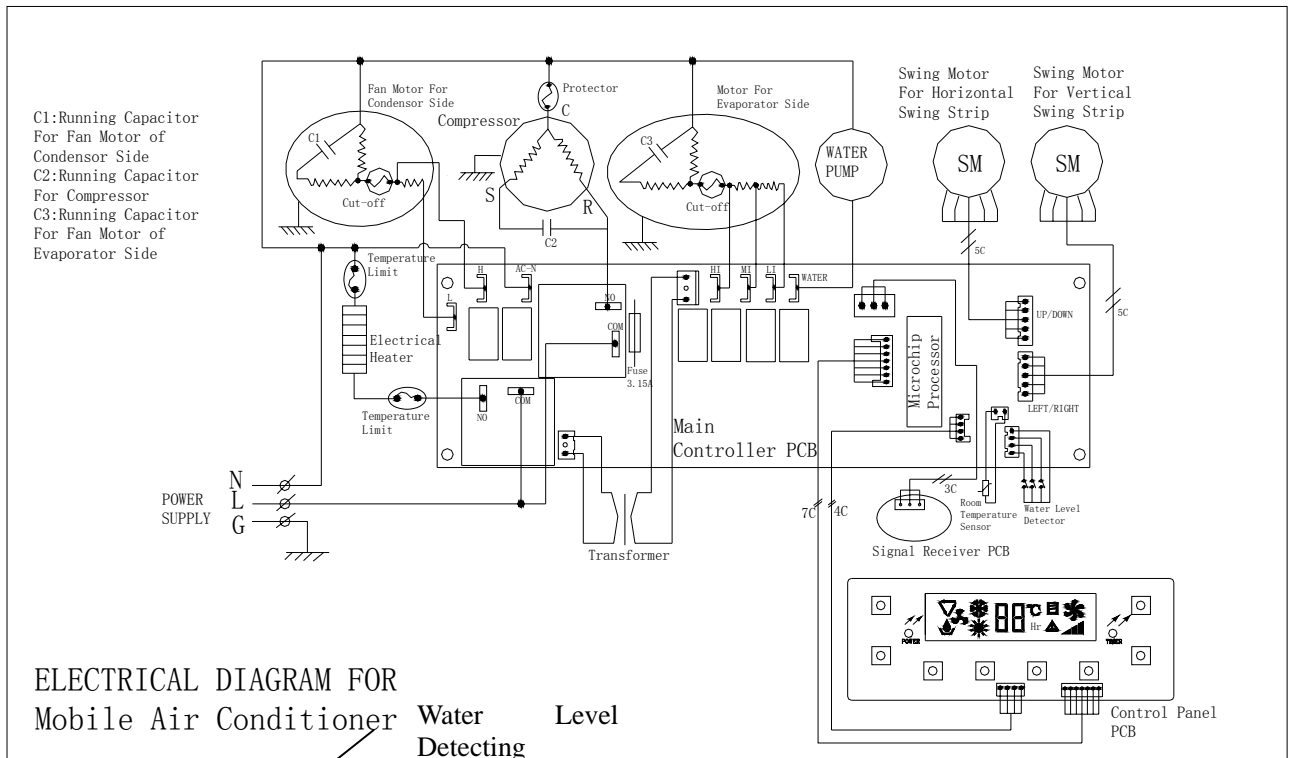
SECTION5. Electrical Diagram

A. Schematic Diagram for PCB

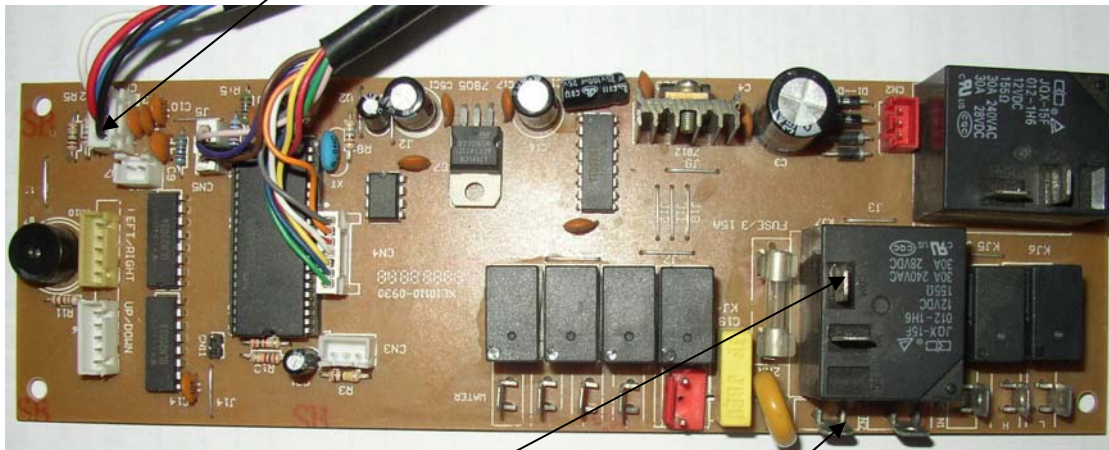


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B. Electrical Diagram

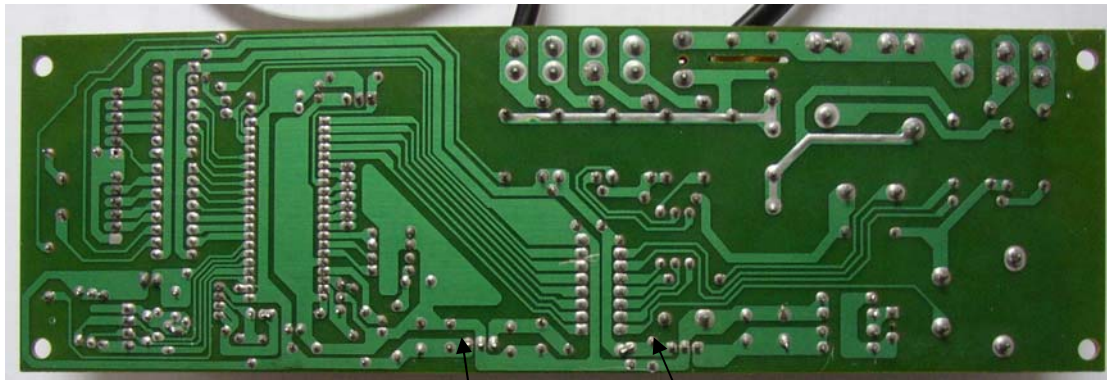


C. Main Control PCB



Live lead of Power Supply

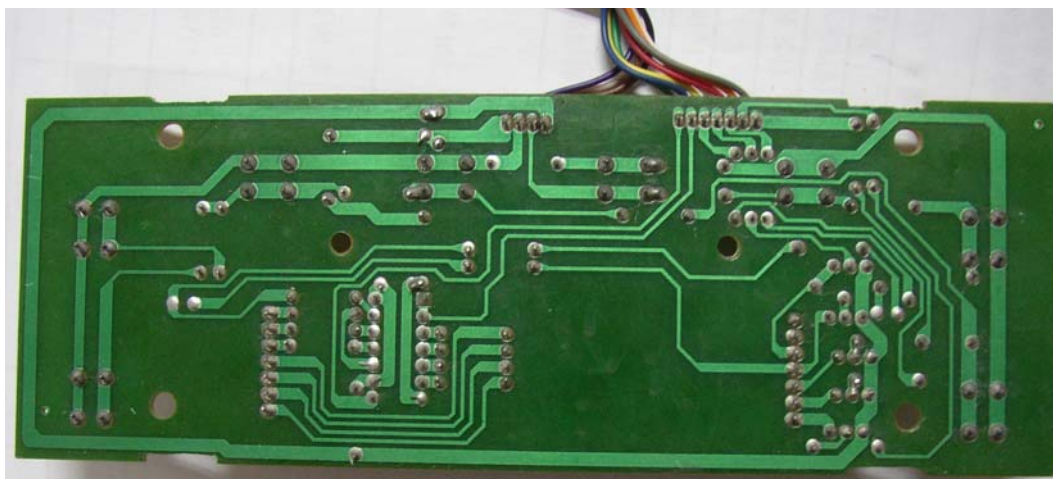
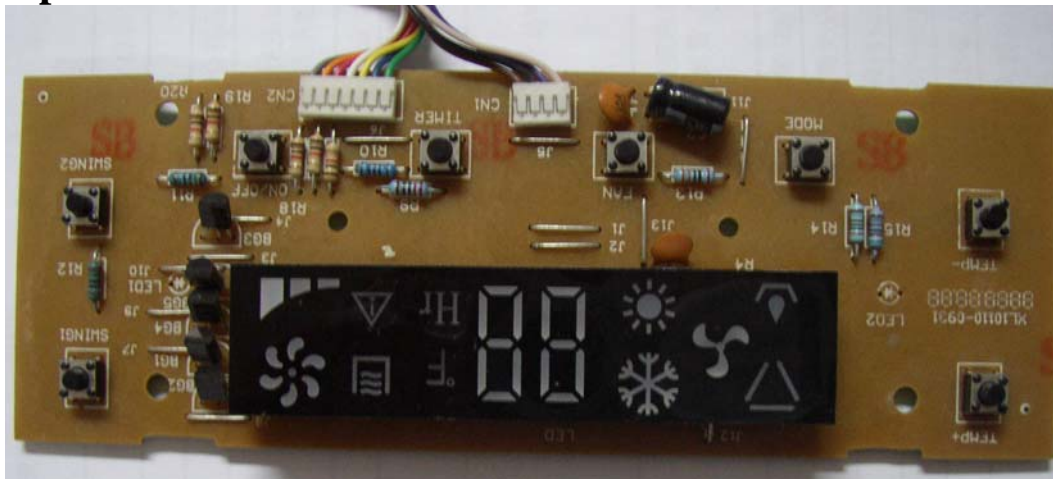
Common Lead of Power Supply



DC5V

DC12V

Operation Panel PCB



SECTION6. Troubleshooting

The following item should be done by the electrician and the experienced service person, it is dangerous!

Item	Problem	Cause	Solution
1	The unit doesn't work at all	The local power has failed.	Wait until local power is restored.
		The plug is loose	Firmly insert the plug into the wall socket
		Power supply voltage is too low	Call your electrician
		Power Cord is damaged	Call the service man to change the power cord
		Improper Timer setting.	Reset the timer
		Transformer is breakdown	Change a new transformer
		Fuse on the PCB is tripped	Change a new fuse.
		Control PCB is breakdown	Measure the 12V and 5V low voltage on the PCB, if no, change to a new PCB.
2	Only fan motor runs	The room temperature is not at working range	Check your room temperature
		Improper temperature setting	Re-set the temperature to lower point
		Water tank is full	Check if the water full indicator is on. Switch power off, drain out the water. Then turn on the unit again.
		The room sensor breakdown	Change a new sensor
		Compressor failed or compressor capacitor failed.	Replace the compressor or capacitor
3	Both fan motor & compressor runs, but no cooling at all.	Refrigerant system leakage	<p>a) Find out the leakage point by one of the following methods: 1) if oil located a point on refrigerant system, the point may be leak. 2) connect the service valve, charge >2.0Mpa dry Nitrogen, put the hole system in water, those points emerge bubble are leakage points. 3) connect service valve, charge 50g R22, check the leakage point with especial Chlorine detector.</p> <p>b) Seal the leakage point or change the component. Use 5% silver brazing rode.</p> <p>c) In 15 minutes after brazing, vacuum extracting with a vacuum pump for more than 1 hour. Be sure vacuum degree < 120Pa if you have a detector.</p> <p>d) Charge in 720g R22</p> <p>e) Seal the opening on charge tube.</p>
4	Low cooling efficiency	The filter is dirty and obstructed	Clean the filter.
		Evaporator side air intake is blocked	Remove the block.

		Condenser is too dirty	Clean the condenser.
		The air intake and outlet ducts of the condenser side are obstructed	Check the hot air ducts & remove the obstacle.
		There is a heat source in the room	Move the heat source away
		The unit is set at dehumidifying mode	Set at cooling mode
		The indoor fan is at low speed	Switch the fan speed at High speed
		The setting cooling temperature is too high.	Lower the setting temperature.
		The outside temperature is lower than 18°C	Do not operate your portable air conditioner in cooling mode.
		The room is too large or door/window is open	Close the door/window
5	Too noisy & vibration	If the sound is not too high and comes from the compressor, fan motor, it is normal.	
		The unit is not evenly placed.	Place the unit evenly
		The floor underneath the unit is uneven	Change the position.
6	The unit stop cooling suddenly, only the fan work and the Water-Full indicator is on.	The condenser water in the unit is full	<p>First, unplug the power cord. 2nd, remove the rubber drain cap on the middle of back panel(DO NOT UNPLUG THE RUBBER DRAIN CAP ON THE BOTTOM). Connect to the water exhausting pipe, put the other end into a container. Then, plug the power cord & press "On/Off" button. Water will be pumped out & flow into the container. Until no water flows out, switch power off, remove the pipe & insert back the rubber drain cap. At last, turn on the unit again & it will cool your room.</p> <p>Be attention: water is only to be full when room air humidity is over 70%. Remember to move away the water exhausting pipe after all water were pumped out & plug back the rubber drain cap. Or the cooling efficiency will decrease about 15%.</p> <p>Or, you can wait a long time to let condenser side fan blow out the water (this maybe take 1 hour or more).</p>
7	The unit turns on and off	The voltage of local power is abnormal	Wait until local power is normal

	frequently	The hot air exhausting port & duct is improperly installed. Or the exhausting port is blocked.	Reinstall the port & duct per instruction manual. Remove the obstacle.
		The outside temperature is extremely hot.	Set the fan on high speed, or wait until the temperature decrease.
		Condenser fan speed is too low	Check if the fan motor capacitor failed.
		The main board is wet, the chip is disordered.	Dry the board. If still fail, change the chip or board.
8	Little cool air blows out	The fan speed is set at low speed	Switch the fan motor to high speed
		The indoor fan motor capacitor failed	Replace the motor capacitor
		The air filter is blocked up	Clean the filter
		The air intake is blocked up	Remove the obstacle
9	Remote controller can't operate the unit	The remote controller is too far away from the unit	Let remote controller access to the unit.
		The signal path is obstructed	Move away the obstacle
		The signal transmitter on remote controller is not against the receiving window on the unit.	Let the signal transmitter align to the receiving window
		The battery failed in remote controller	Change the battery
		The terminal plug on the receiver wire is loose or the receiver failed	Firmly insert the plug on the main board; change the receiver.
10	Water full indicator frequently lights up	The room air humidity is too big.	It is normal if humidity is too big. Just drain out the water & re-start the unit. (Ref. Item 4)
		Water pump failed.	While water full indicator lights up, remove the rubber plug on the middle of back panel to see if any water flow out. Or listen if any water pump action sound. Change the water pump.
11	Water flows out from the bottom pan after running some time.	Water stage pole plate jumps out.	Move away the dec_front & stainless front panel to see if the plate jump out from the fixing hooks on bottom pan. Put it back & make sure it is fixed.
		The 1 st stage pole comes out from the plate.	Fix it back to water stage pole plate.
		The water stage signal wire connector loose or come out from the main board	Put back the connector to the socket on main board.

12	“E1” displays on the center of LCD Display	The connector of room sensor is loose or comes out from the main board	Put back the connector to the socket on main board.
		Room sensor breakdown	Change a new sensor

SECTION6 Appendix

I. Sensor for detecting ice-full

Resistor(K Ω)——Temperature(°C)

Specification: R25=10.0K Ω ± 1.0%
B25-50=3470K ± 1.0%

T(°C)	R(K Ω)	T(°C)	R(K Ω)	T(°C)	R(K Ω)	T(°C)	R(K Ω)	T(°C)	R(K Ω)
-20.0	74.506	9.0	19.143	38.0	6.164	67.0	2.350	96.0	1.013
-19.0	70.874	10.0	18.345	39.0	5.948	68.0	2.279	97.0	0.955
-18.0	67.352	11.0	17.588	40.0	5.740	69.0	2.210	98.0	0.950
-17.0	64.025	12.0	16.865	41.0	5.541	70.0	2.143	99.0	0.934
-16.0	60.883	13.0	16.176	42.0	5.349	71.0	2.070	100.0	0.909
-15.0	57.913	14.0	15.519	43.0	5.165	72.0	2.017	101.0	0.885
-14.0	55.107	15.0	14.893	44.0	4.989	73.0	1.957	102.0	0.862
-13.0	52.454	16.0	14.296	45.0	4.819	74.0	1.899	103.0	0.839
-12.0	49.944	17.0	13.726	46.0	4.656	75.0	1.843	104.0	0.817
-11.0	47.569	18.0	13.182	47.0	4.499	76.0	1.789	105.0	0.796
-10.0	45.322	19.0	12.663	48.0	4.348	77.0	1.737	106.0	0.775
-9.0	43.195	20.0	12.167	49.0	4.204	78.0	1.687	107.0	0.755
-8.0	41.181	21.0	11.693	50.0	4.064	79.0	1.638	108.0	0.736
-7.0	39.272	22.0	11.241	51.0	3.930	80.0	1.591	109.0	0.717
-6.0	37.464	23.0	10.808	52.0	3.801	81.0	1.545	110.0	0.698
-5.0	35.730	24.0	10.395	53.0	3.677	82.0	1.501	111.0	0.681
-4.0	34.125	25.0	10.000	54.0	3.558	83.0	1.458	112.0	0.663
-3.0	32.584	26.0	9.522	55.0	3.443	84.0	1.417	113.0	0.647
-2.0	31.121	27.0	9.261	56.0	3.332	85.0	1.377	114.0	0.630
-1.0	29.734	28.0	8.915	57.0	3.225	86.0	1.338	115.0	0.614
0.0	28.415	29.0	8.583	58.0	3.123	87.0	1.301	116.0	0.599
1.0	27.165	30.0	8.266	59.0	3.024	88.0	1.265	117.0	0.584
2.0	25.976	31.0	7.963	60.0	2.928	89.0	1.230	118.0	0.570
3.0	24.847	32.0	7.572	61.0	2.836	90.0	1.196	119.0	0.555
4.0	23.773	33.0	7.393	62.0	2.748	91.0	1.163	120.0	0.542
5.0	22.753	34.0	7.127	63.0	2.652	92.0	1.131		
6.0	21.782	35.0	6.871	64.0	2.580	93.0	1.100		
7.0	20.858	36.0	6.625	65.0	2.501	94.0	1.070		
8.0	19.980	37.0	6.390	66.0	2.424	95.0	1.041		